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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/604,527      | 07/29/2003  | Tai-Haur Kuo         | VIAP0037USA         | 1526             |

27765 7590 07/28/2004

NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE)  
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| EXAMINER |
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LAUTURE, JOSEPH J

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| ART UNIT | PAPER NUMBER |
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2819

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                   |  |
|------------------------------|--------------------------------------|-----------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/604,527 | <b>Applicant(s)</b><br>KUO ET AL. |  |
|                              | <b>Examiner</b><br>Joseph Lauture    | <b>Art Unit</b><br>2819           |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

*Specification*

The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the corresponding digital signal" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitations "the  $k^{\text{th}} - 1$  and the  $k^{\text{th}} + 1$ " in lines 14-15. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the corresponding reference in line " in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the corresponding digital signal" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the  $k^{\text{th}}$  comparison unit" in lines 12-13. There is insufficient antecedent basis for this limitation in the claim.

In claim 6, lines 14 and 16-17, it is unclear what is meant by "outputs of the positive output of the  $k^{th}$  1". Clarification is required.

Claim 8 recites the limitation "the input signal" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claims 8 and 9 recite the limitation "the interpolating unit" in lines 29 and 4 respectively. There is insufficient antecedent basis for this limitation in the claim. It is unclear which one of the  $n-1$  units is being referred to.

Claim 10 recites the limitation "the corresponding reference" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the input signal" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the differential manner" in line 31. There is insufficient antecedent basis for this limitation in the claim.

In claim 16, line 21, it is unclear what is meant by " $k^{th+P}$ " because P is not defined. Clarification is required.

In claim 16, line 32, it is unclear what is meant by "plurality positive output". Clarification is required.

Claims 16 and 17 recite the limitation "the interpolating unit" in lines 29 and 4 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites the limitation "the corresponding reference" in line 4. There is insufficient antecedent basis for this limitation in the claim.

***Claim objections***

Claim 8 is objected to because of the following informalities:

In lines 24-28, “nfirst” should be --n first --; “nsecond” should be --n second--; and  
“unitsperform” should be --units perform--.

Claim 15 is objected to because of the following informalities: In line 2, “thesecond”  
should be -- the second--.

Claim 16 is objected to because of the following informalities: In lines 13,15,24 and 27  
“nfirst” should be --n first--.

Claim 16 is objected to because of the following informalities:

In lines 25 and 27, “nfirst” should be --n first --; “nsecond” should be --n second--;

Claim 20 is objected to because of the following informalities: On line 4, “the each of the  
negative output” should be -- each of the negative outputs--.

Art Unit: 2819

### CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Lauture, whose telephone number is (571) 272-1805. The examiner can normally be reached Monday to Friday between 9:30 am and 6:00 PM

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached at (571) 272-1812. The fax number for the organization to which this application is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571) 272-1562.

Joseph Lauture  
Art Unit: 2819  
Date: 07/16/2004

  
Brian Young  
Primary Examiner